



PROFESSIONAL RADIO



text@trbo™

Administrators Guide

June 13, 2015

PROPRIETARY AND CONFIDENTIAL

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1. Introduction

TABLETmedia text@trbo software middleware bridges Motorola MOTOTRBO™ 2-way radios with traditional email allowing radio users (subscribers) to send, receive and reply to emails.

text@trbo™ is a communications solution for Microsoft Windows XP/7/8 systems that:

- Works with Starwood StarGuest, SynergyMMS® by SAI, Guestware, MTech HOTSOS, IBM Maximo, Servidyne iTendant, Angus Anywhere, HotelExpert and hotelSystemsPro hospitality and building management applications
- Is extremely simple to configure and deploy
- Can run on laptops running cellular data modem effectively creating a portable radio hub
- Can exchange text messages with email users, including Google mail or MS Exchange
- Supports outgoing email via the SMTP protocol
- Supports incoming email as either a POP3 client or a SMTP server
- Stores all incoming emails and forwards them when the radio is present
- Sends an email notification when a message cannot be delivered to a radio
- Log / record all text messages
- Is completely self contained and does not require any external 3rd party software components
- Is very light and thin and can run on a system shared with other applications
- Runs as a MS Windows service for additional security

text@trbo™ is also the ideal conduit for applications that use email to send text notifications to 2-way radios.

2. Main Features

text@trbo™ supports the following capabilities:

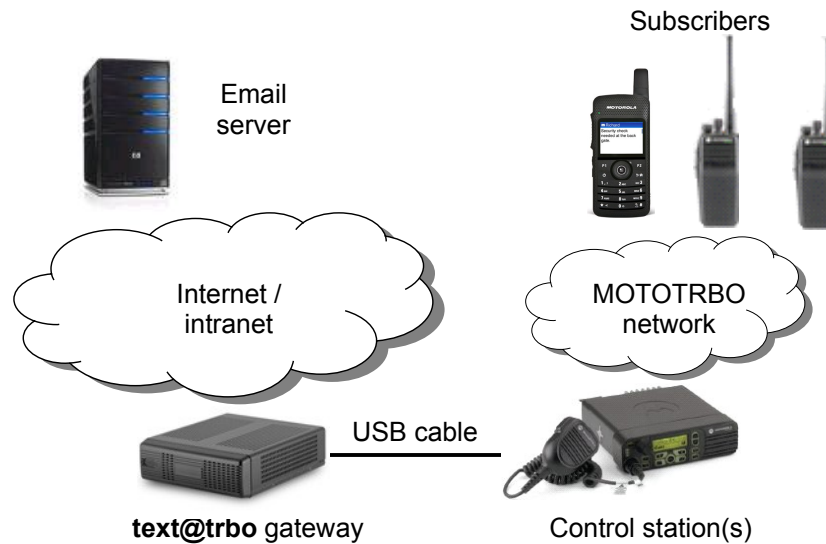
- Multiple (24) control stations (radios) support
- Motorola Data Network Application Interface support
- Native support for Motorola MOTOTRBO bi-directional text messaging
- One to one messages between radio and email users
- Group messages from email to radio users
- Outgoing email via built-in SMTP client using internal DNS resolution or an external SMTP server
- Incoming email via built-in POP3 client or SMTP server
- SSL/TLS and STARTTLS for secure sites (e.g. Google Apps)
- Programmable message retries to ensure that messages are delivered to the a radio user
- Radio activity validation using built-in presence services (ARS)
- White list of users allowed to send messages to the radios
- Multiple email recipients
- Functions to test the correct server settings
- Log (record) all text messages
- Log all transactions
- Automatically start with Windows
- Taskbar tray icon notification
- Low memory footprint and processor utilization
- International languages ready

3. Installation

3.1. text@trbo™ Systems requirements

The text@trbo™ system requires the following components:

- MS Windows 7/8 personal computer with a network interface to the internet or an intranet email server
 - Due to its very low processor and memory requirements, it can be installed on an existing server PC running other applications, although it should be ideally setup on a dedicated PC.
 - The entry level version of the Windows OS is sufficient (e.g. XP home Edition)
 - There is no practical minimum CPU speed or memory requirement other than the ones specified by Microsoft in order to run the specific version of the operating system.
 - The size of the hard disk matters only in case text recording is enabled, in which case the number of messages recorded is solely limited to the size of the hard disk
- Motorola MOTOTRBO mobile radio(s)
 - We recommend using the mobile version, such as the XPR4350 set to 1-2W
- An external power supply (13.8V DC, 10+ A) is also required to power the radio
- An external or magnetic mount antenna
- Motorola “Mobile & Repeater Rear Programming Cable” (part # PMKN4010_)



3.2. text@trbo™ System Installation

The installation procedure of the system is as follows:

- Connect the radio acting as the control station to the power supply, turn it on and test that it operates successfully.
- Make sure that the radio has the 1.08.32 version of the firmware or greater
- Make sure to program the radio including settings specific for operation with text@trbo™ (see “Motorola MOTOTRBO Radio Programming”)
- Install the Motorola MOTOTRBO RNDIS driver
- Connect the programming cable into the MAP connector in the rear of the radio and to the USB port of the PC.
- Follow the MS Windows messages to install the MOTOTRBO radio drivers
- When installed the radio appears as a network card named “MOTOTRBO Radio #...”. Note that the radio driver number can change and it has no effect on the operation of the solution.
- Install and run the text@trbo™ software

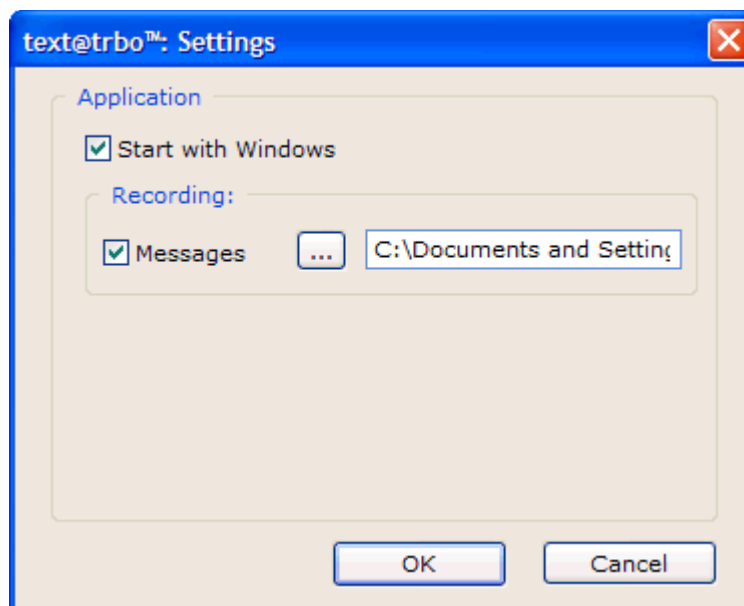
3.3. text@trbo™ application configuration

Once you have setup the system and installed the software, you can run and configure it.

The first time you run it, will ask for the license activation code. Make sure your PC has access to the public internet and enter the code (the licenses status is displayed in the log section of the main window).

NOTE: If you do not enter a code or click on cancel, text@trbo™ will enter into trail mode. In this mode, it will automatically close after a period of time (60 minutes) and it needs to be manually restarted to continue its operation. Other than the 60 minutes restriction, there is no time limit (e.g. 30 days) to how long the software continues to work.

The next step is to configure the application:



Click on File | Settings (F2) to open the Settings window

- “Start with Windows”: check this box to start text@trbo™ when Windows starts
- Enable recording of text messages:
 - Check Messages to enable the recording and select the directory where the files will be placed

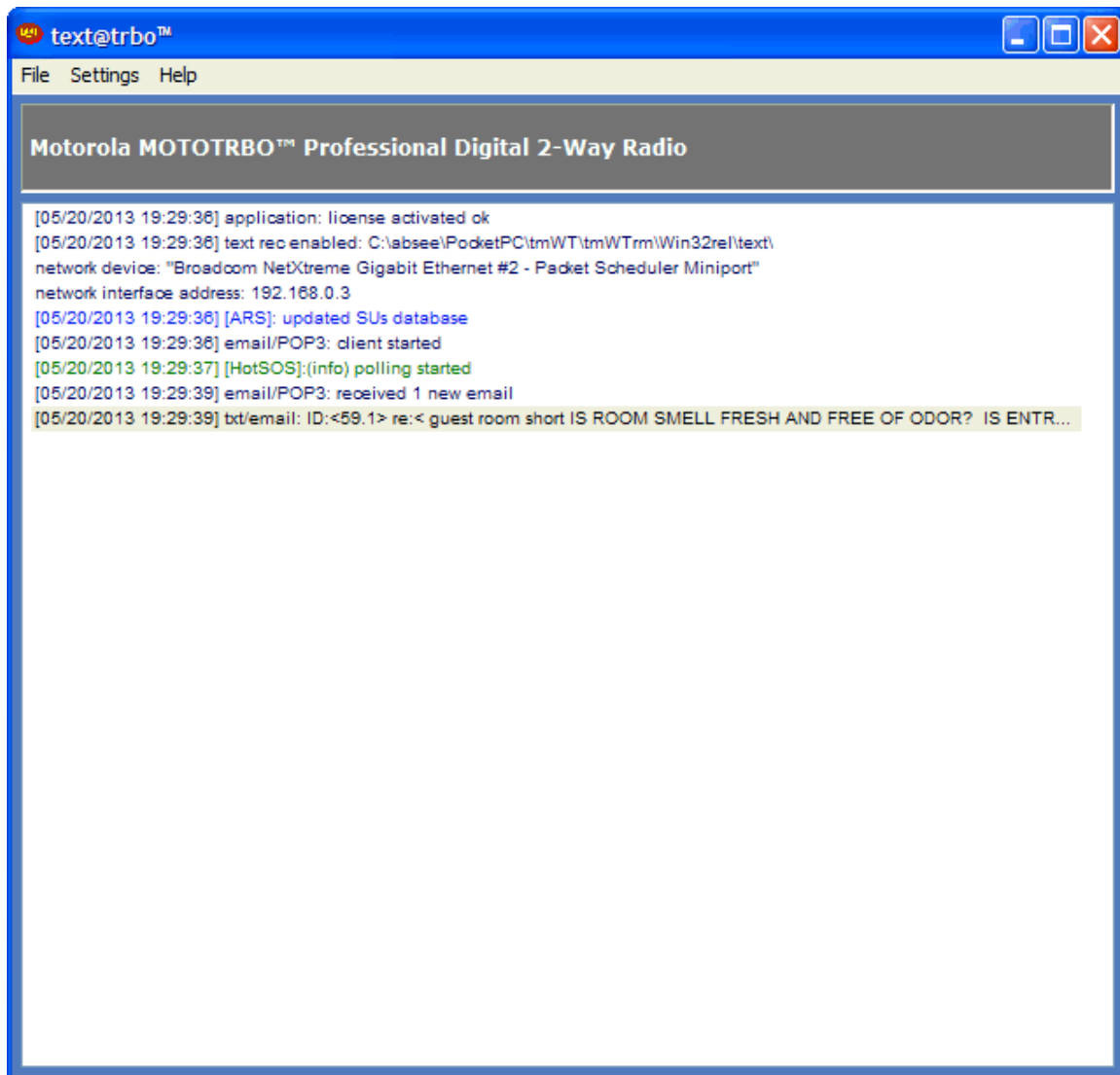
3.4. text@trbo radio configuration

There are no settings required to configure the radios:

- Control stations are automatically detected when they are added and removed
- Subscriber radios are automatically added to the database

3.5. text@trbo user interface

Once text@trbo™ is properly configured it will have the following interface:



4. Operation

4.1. Overview

For outgoing emails, text@trbo™ uses its internal SMTP client to send the email either to any SMTP relay server (including Goggle mail or Exchange), or directly to the final domain server by doing a DNS resolution, while for inbound emails it receives emails as a non-relaying SMTP server.

- Inbound:
 - SMTP is particularly helpful for inbound emails since it works more like “push” technology. The advantage of inbound SMTP compared to POP3 is that it provides instant notifications, rather than polling at regular interval. This reduces network and processor utilization while providing the fastest possible response time. On the other hand since it typically requires a direct incoming connection to the internet, which typically simply requires to setup port forwarding on the router.
 - POP3: with this protocol text@trbo™ accesses a mailbox in an existing mail server. The advantage is that since it is a client it can access email outside the local network. On the other hand, it needs to poll at regular and frequent intervals to check for incoming email, and the mailbox used need to be setup as the “catch-all” mailbox which receives all emails with unknown recipients.
- Outbound: text@trbo uses its own SMTP engine, which allows more flexibility, including connecting to “free” email accounts such as Google mail (Gmail), that use SSL authentication as well as programmable ports.
 - By default, text@trbo uses its internal SMTP client to resolve the destination hostname (from DNS MX record) and directly send the email. This is the simplest option, since it requires no setup.
 - text@trbo can also be setup to use an external SMTP server when SSL authentication or other parameters need to be changed.

Email is handled as follows:

- Incoming:
 - The From: field is checked against the corresponding entries in the white list. Only users whose email address is in the white list are allowed to send emails to the radios.
 - The To: field is checked for the correct syntax (“<ID>.<destination_type>@<domain_name>”).
 - The ID of the From: email address in the white list is used to send a dispatch text to the radio, to allow the radio user to reply to the message.
 - Only the first 138 characters of the email body are used as the text message to be forwarded to the radio and IP clients. All non-printable characters (in the range from 0x20 to 0x7f included) are replaced by <space>.
- Outgoing:
 - The Dispatch ID in the message from the radio is matched against the ones in the white list and the corresponding email address is used when sending the email.

text@trbo™ supports two types of email messages:

- Private messages to individual in the form of “<RadioID>.1@<domain_name>” (note the “1” in the destination_type field of the name). These messages are acknowledged by the radios and text@trbo™ retries sending them to guarantee delivery.
- Group messages to a group of radios on the same talkgroup in the form of “<GroupID>.2@<domain_name>” (note the “2” in the destination_type field of the name). All radios in a talkgroup must be programmed with the specific Group Call digital contact and the digital channel must be set to listen to that group. These messages are not acknowledged by the radios so text@trbo™ cannot guarantee their delivery.

The email gateway can connect to any network card on the system. On a system with multiple cards this allows:

- The internal network to be completely isolated from the public internet since only text messages and no network traffic is routed by text@trbo™
- To run text@trbo™ on a mobile system connected to a cellular data network (e.g. notebook with a 3G WAN card). In case of emergency or in remote un-manned locations, a localized standalone hub can be economically and easily setup to exchange text messages between radios and any email users.

4.2. Inbound email routing

Inbound email can be setup to arrive at the text@trbo™ application in one of 3 different ways:

- Internal network: email from, say, an Exchange server, is sent to the text@trbo™ application via direct IP addressing (e.g. 59.1@192.168.0.21) , or internal DNS (e.g. 59.1@intranet.cisco.com).
- Forwarded by the router: by programming the router with access to the internet to forward all TCP traffic on port 25 (programmable) to the IP address of the text@trbo™ system, email can be addressed to a public IP address (or its DNS address). For instance, if the public IP address of the router is 198.133.219.25 (or its equivalent DNS of “cisco.com”) and the router forwards all TCP packets on port 25 to the internal system running text@trbo™ at 192.168.0.220, then sending an email to “59.1@cisco.com” will reach the text@trbo™ system behind the router.
- Direct internet connection: for maximum level of security, the system running text@trbo™ has two network cards, one connected to the internal network and the other with a public IP address. Email can then be sent to the public IP address or its DNS equivalent.

4.3. text@trbo™ mailbox settings

The text@trbo™ email gateway is configured with the mailbox and server(s) information. The image below indicates the settings when using the internal DNS resolution of the destination email server (outbound) and internal SMTP server (inbound).

4.3.1. Common settings:

- “Use external server”: Select this option when connecting to an external SMTP server. In this case the “host”, “SSL”, “Port”, user “Name” and “Password” indicate the respective information provided by the ISP.
 - If this option is not selected, text@trbo™ will automatically resolve the destination server DNS (MX) address and send the email without requiring an intermediary SMTP server.
- “Verify connection” button: a test email is sent to the email address specified in the “Name” field.
- The “Local Domain” field is very important since it is used:
 - to verify the domain of incoming emails
 - when sending outbound as it is appended after the name of the device that is originating the text message. It is also used for the “reply To” field of the email. The name is in the form of “<RadioID>.<destination_type>@<local_domain>”, where <RadioID> is the radio ID number. For instance in an email message from radio 101 with a local domain of “cisco.com” the “Reply To” field of the email will be “101.1@cisco.com”.
- “JTS support: select when using radios that support the Job Ticket menus for work order management
- “Share radios”: check this to enable replies from emails addressed to user IDs
- “Compatibility”: select the appropriate entry if you are using a 3rd party application (e.g. Guestware) otherwise select “Normal”.
- “Default subject” field:
 - When a radio replies to an incoming message, the subject field is retained and a “Re :” added the at the beginning of the subject.
 - When a radio originates the message, by default the subject field is empty. In this case the string defined here will be used as the default subject.

- “Retry delivering text messages”: text messages are immediately forwarded to the radios when a radio is properly registered (ARS) with the text@trbo.
- If the radio has previously registered with text@trbo but it is not currently registered, the email is queued and text@trbo retries sending it the specified number of times at the specified interval.
- When all retries are expired, text@trbo will send a bounce back failed delivery email notification to the original email sender (subject: “*** Undeliverable email to radio ***”, body “Message delivery to radio [radio email address]” failed. Retries expired!”).
- If an email is addressed to a radio user that has never registered, text@trbo will immediately send a bounce back failed delivery email notification to the original email sender ((subject: “*** Undeliverable email to radio ***”, body “Message delivery to radio [radio email address] failed. Device unknown!”).

4.3.2. SMTP server inbound settings

When using text@trbo™ as an SMTP server for incoming messages:

- Select “SMTP server” as the transport
- Only change the SMTP server port if necessary

4.3.3. POP3 client inbound settings:

The following image shows the configuration when using Google Apps for POP3 incoming email:

- The “host”, “SSL”, “Port”, user “Name” and “Password” indicate the respective information provided by the ISP.
- The “Poll” time is the interval used to check for incoming email.

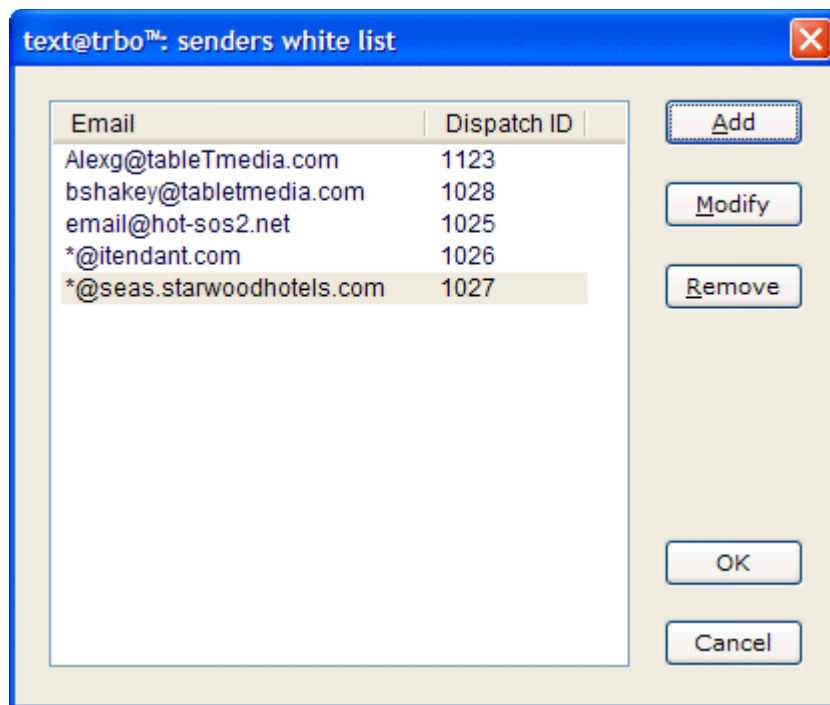
4.4. Incoming email addresses white list

For security reasons and to allow bi-directional emails to/from radios, text@trbo™ only handles emails from specific email addresses.

The Dispatch ID is used by the radios when sending or replying to incoming email messages. This ID corresponds to the Dispatch Call digital contact ID on the MOTOTRBO radios. Radios need to be programmed with these contacts to allow users to send emails, but it is not necessary if users only reply to emails.

While the white list supports wildcards (“*”) care should be taken when allowing users from public domains. Valid email formats with wildcards are in the forms of “*@<domain name>” such as “*@hotmail.com”. In particular, when a radio replies to an email, it will send it to the dispatch ID defined either here or in the corresponding condition/rule. In other words if, for instance, the email in the white list is defined as “*.foo.com” with a dispatch ID of 1234, emails from tom@foo.com or jim@foo.com will be correctly forwarded to radios. However since the messages share the same dispatch ID, is not possible to distinguish the original email sender and replies from the radio will only be routed according to whichever condition or rule handles the radio dispatch message 1234.

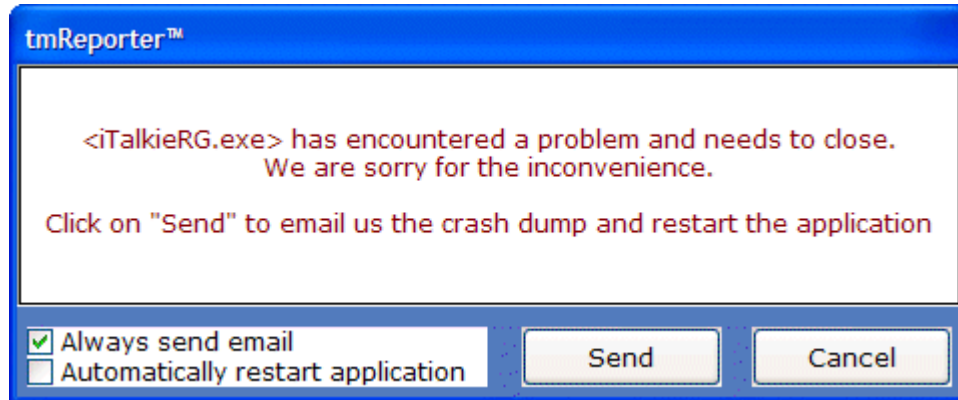
Therefore, we do not recommend using wildcards other than for specific compatibility modes.



5. tmReport: software watchdog

tmReport is an application that is launched whenever the main program detects a fault condition and has two primary functions:

- automatically restart the main program without the need of any user interaction to minimize any downtime
- send via email crash dump information which may contain helpful information to improve the main program



By default tmReport does not automatically restart the main application. This is helpful during the initial configuration of the system and can be enabled thereafter.

In case the main software hangs in a loop when it's restarted and immediately crashes and it is restarted again, it is possible to easily disable the functionality by opening the tmReport program and simply uncheck the "Automatically restart application" option: as soon as a checkbox is changed, its value is saved to the registry. This may require restarting the PC.

6. 3rd Party Applications Configuration Notes

6.1. M-Tech HOTSOS – email based

When using text@trbo™ with HOTSOS, use the following settings:

- In the white list enter the following:

White list	
Email address	Contact ID
email@hot-sos2.net	1123
checkout@hot-sos2.net	1025
checkin@hot-sos2.net	1026
onduty@hot-sos2.net	1027
offduty@hot-sos2.net	1028

- Mailbox settings:
 - Make sure to select the “Mtech HotSOS” compatibility mode
 - When using the Google Apps email services uncheck “Use external server” for outbound SMTP email
- Remote radios (e.g. the portables, not the local radio connected to the PC running text@trbo™):
 - program the corresponding Dispatch Call digital contacts to match the above email addresses and IDs:

"Dispatch call" digital contact	
Alias	Group ID
HOTSOS	1123
HSOSCheckout	1025
HSOSCheckin	1026
HSOSOnDuty	1027
HSOSOffDuty	1028

- program the following Quicktext messages:
 - Start
 - Stop
 - Complete
 - Accept
 - Decline
 - OnDuty
 - OffDuty
 - Terminate

6.2. M-Tech HOTSOS – direct connection

When connecting text@trbo™ with HOTSOS using the direct connection via web services, use the following settings:

- In the application menu, select Settings | HotSOS:

- Enter the information provided by M-Tech: URL, account name and password
- In the application menu, select Settings | Mailbox:

- Select “M-Tech HOTSOS” in the compatibility selection

- In the application menu, select Settings | Whitelist:

White list	
Email address	Contact ID
so@hot-sos2.api	1123
checkin@hot-sos2-.api	1025
checkout@hot-sos2-.api	1026
info@hot-sos2-.api	1027

Remote radios (e.g. the portables, not the local radio connected to the PC running text@trbo™):

- program the corresponding Dispatch Call digital contacts to match the above email addresses and IDs:

"Dispatch call" digital contact	
Alias	Group ID
HOTSOS	1123
HSOScheckIn	1025
HSOScheckOut	1026
HSOSinfo	1027

- program the following Quicktext messages:
 - Started
 - Stopped
 - Completed

NOTES on operation:

- work order tickets are handled either replying to messages or using the Job Tickets function
- to ckeckin an employee, on the subscriber radio navigate through the menu: messages | write | <enter number of employee ID> | send | <use HSOScheckin from the contact list>
- to ckeckout an employee, on the subscriber radio navigate through the menu: messages | write | <leave blank> | send | <use HSOScheckout from the contact list>
- information messages are handled as regular text messages

6.3. Guestware

When using text@trbo™ with Guestware, use the following settings:

- In the white list enter the following:

White list	
Email address	Contact ID
<email provided by Guestware>	1123

- Mailbox settings:
 - Make sure to select the “Guestware” compatibility mode
- Remote radios (e.g. the portables, not the local radio connected to the PC running text@trbo™):
 - program the corresponding Dispatch Call digital contacts to match the above email addresses and IDs:

"Dispatch call" digital contact	
Alias	Group ID
Guestware	1123

- program the following Quicktext messages:
 - Accept
 - Done
 - WorkOrder
 - Decline

6.4. Servidyne iTendant

When using text@trbo™ with Servidyne iTendant, use the following settings:

- In the white list enter the following:

White list	
Email address	Contact ID
*@itendant.com	1123

- Mailbox settings:
 - Make sure to select the “Servidyne iTendant” compatibility mode
- Remote radios (e.g. the portables, not the local radio connected to the PC running text@trbo™):
 - program the corresponding Dispatch Call digital contacts to match the above email addresses and IDs:

"Dispatch call" digital contact	
Alias	Group ID
iTendant	1123

- program the following Quicktext messages:
 - RE:ACCEPT
 - RE:DECLINE
 - IP:COMPLETE
 - IP:ON HOLD
 - IP:RELEASE

6.5. Systems Associates (SAI) SynergyMMS® - legacy (old) version

When using text@trbo™ with SynergyMMS®, use the following settings:

- In the white list enter the following:

White list	
Email address	Contact ID
Dispatch@synergymms.net	1123
Dispatch01@synergymms.net	1021
Dispatch02@synergymms.net	1022
Dispatch03@synergymms.net	1023
Dispatch04@synergymms.net	1024
Dispatch05@synergymms.net	1025
Dispatch06@synergymms.net	1026
Dispatch07@synergymms.net	1027
Dispatch08@synergymms.net	1028
Dispatch09@synergymms.net	1029
Dispatch10@synergymms.net	1030

- Mailbox settings:
 - Make sure to select the “SynergyMMS by SAI” compatibility mode
- Remote radios (e.g. the portables, not the local radio connected to the PC running text@trbo™):
 - program the corresponding Dispatch Call digital contacts to match the above email addresses and IDs:

"Dispatch call" digital contact	
Alias	Group ID
SynergyMMS	1123

- program the following Quicktext messages:
 - Accept
 - Reject
 - Complete

6.6. Systems Associates (SAI) SynergyMMS® - Current version

When using text@trbo™ with SynergyMMS®, use the following settings:

- In the white list enter the following:

White list	
Email address	Contact ID
*@synergymms.net	1123
<propertyID>@synergymms.net (*)	1124

- Mailbox settings:
 - Make sure to select the “SynergyMMS (rev2)” compatibility mode
- Remote radios (e.g. the portables, not the local radio connected to the PC running text@trbo™):
 - program the corresponding Dispatch Call digital contacts to match the above email addresses and IDs:

Dispatch call digital contact	
Alias	Group ID
SynergyMMS	1123
SynergyMMS claim (*)	1124

- program the following Quicktext messages:
 - Accept
 - Reject
 - Complete

(*): these settings are required when also using the claim/unclaim feature. In this case the user is required to create a new message as follows:

- To claim a device:
 - send the message “6<space><employed number>” to the contact “SynergyMMS claim”
- To un-claim a device:
 - send the message “7<space><employed number>” to the contact “SynergyMMS claim”

6.7. Startwood StarGuest

When using text@trbo™ with Starwood StarGuest, use the following settings:

- In the white list enter the following:

White list	
Email address	Contact ID
*@seas.starwoodhotels.com	1123

- Mailbox settings:
 - Make sure to select the “Starwood StarGuest” compatibility mode
- Remote radios (e.g. the portables, not the local radio connected to the PC running text@trbo™):
 - program the corresponding Dispatch Call digital contacts to match the above email addresses and IDs:

"Dispatch call" digital contact	
Alias	Group ID
StarGuest	1123

- program the following Quicktext messages:
 - ACK
 - PEND
 - CLOSE

6.8. Reference: hotelSystemsPro

When using text@trbo™ with hotelSystemsPro, use the following settings:

- In the white list enter the following:

White list	
Email address	Contact ID
*@hotelmaintenancepro.com	1123

- Mailbox settings:
 - Make sure to select the “hotelSystemsPro” compatibility mode
- Remote radios (e.g. the portables, not the local radio connected to the PC running text@trbo™):
 - program the corresponding Dispatch Call digital contacts to match the above email addresses and IDs:

"Dispatch call" digital contact	
Alias	Group ID
ticket	1123

- program the Quicktext messages as instructed by hotelSystemsPro

6.9. IBM Maximo

When using text@trbo™ with IBM Maximo, use the following settings:

- Mailbox settings:
 - Make sure to select the “IBM Maximo” compatibility mode
- Other settings:
 - As per normal implementation unless deployment-specific settings are required

6.10. Angus Anywhere

When using text@trbo™ with Angus Anywhere, use the following settings:

- In the white list enter the following:

White list	
Email address	Contact ID
*@ng1v4.angusanywhere.com	1123

- Mailbox settings:
 - Make sure to select the “Angus Anywhere” compatibility mode
- Remote radios (e.g. the portables, not the local radio connected to the PC running text@trbo™):
 - program the corresponding Dispatch Call digital contacts to match the above email addresses and IDs:

"Dispatch call" digital contact	
Alias	Group ID
Angus	1123

- program the following Quicktext messages:
 - ACK (or Accept)
 - Start (or WIP)
 - Delay
 - CMP

6.11. HotelExpert

When using text@trbo™ with HotelExpert, use the following settings:

- In the white list enter the following:

White list	
<i>Email address</i>	<i>Contact ID</i>
hotelexpert@hotelexpert.com	1123

- Mailbox settings:
 - Make sure to select the “HotelExpert” compatibility mode
- Remote radios (e.g. the portables, not the local radio connected to the PC running text@trbo™):
 - program the corresponding Dispatch Call digital contacts to match the above email addresses and IDs:

"Dispatch call" digital contact	
<i>Alias</i>	<i>Group ID</i>
HotelExpert	1123

- program the following Quicktext messages:
 - CLOSE
 - DND
 - DECLINE

7. Emails addressed to user IDs

Traditionally private emails or tickets/work orders have been addressed to individual radios by sending it to the ID of the radio itself, which ties employees to always use the same device. Many enterprises however prefer to have pools of devices so that employees can pick any radio from the chargers at the beginning of their shift and in case they lose it or break it they can get the next available one.

iTalkie/RG is capable of handling emails addressed to user IDs rather a radio ID in the following way:

- Users are assigned IDs (a number)
- At the beginning of their shift they must sign-in on their radios with their user ID to start receiving emails.
- When they finish they can sign out or just turn off the radio

This process works in conjunction of the sign in features of 2nd generation MOTOTRBO radios. The feature is enabled by checking the appropriate setting in the General Settings section of CPS.

In addition, the “Share radios” option must also be enabled in the mailbox settings of iTalkie/RG.

With this process instead of addressing emails to “<radio ID>.1@<domain>” as for private messages, they are addressed to “<user ID>.7@<domain>”. Note the different addressing from “.1” to “.7”.

The gateway will take care of dynamically mapping user IDs and radio IDs.

8. Job Ticket function configuration (SL series)

The “Job Tickets” functionality makes the task of dealing with service orders truly a breeze – a matter of seconds compared to traditional methods.

When using this function service orders are not handled as standard text messages on subscriber radios. Therefore there is no need to enter the pre-defined messages in the “Text Messages” page of CPS.

You do however have to configure the “Job Tickets” section in CPS. For instance, for HotSOS using the web services direct connection, you need the following 3 entries:

- line 1: “Started” and related folder “Started”, last state flag unchecked
- line 2: “Stopped” and related folder “Stopped”, last state flag unchecked
- line 3: “Completed” and related folder “Completed”, last state flag checked

Now, in the “Menu” page of CPS you could rename:

- “Job Tickets Main Name” to “HotSOS”
- “Job Tickets Short Name” (which appears in the main screen of the LCD above the P2 button) to “HSOS”

In text@trbo in “Settings | Mailbox” you need to check “JTS”. This causes every radio, as it is automatically added to the database, to handle Job Tickets. If you have a mixed radio environment with both XPRxxx and SLxxx radios, then you need to look at section 9, “Modifications to the subscriber database for mixed radio type support” on page 27.

9. Modifications to the subscriber database for mixed radio type support

The automatically-created subscriber database is in the “tmARSdb.csv” Excel-compatible text file (CSV) located in the default “c:\Program Files” application directory (Windows XP) or in the VirtualStore “c:\Users\<user name\AppData\Local\Program Files” data files directory (Windows 7 and 8).

Since it is text-based it can also be edited with Notepad or any text editor.

One of the parameters stored for each subscriber radio, is the 'bJTS' setting:

- A value of 1 (one) defines that the subscriber radio supports the Job Ticket function of newer radios, e.g. SL7550.
- A value of 0 (zero) defines traditional radios that use text messaging for replies

When deploying systems where all radios are of the same type, it is enough to check (or uncheck) the “JTS support” option in the mailbox settings.

However when deploying systems with a mixed pool of radios with and without the job ticket function, the database must be manually updated to define which radios support the JTS function.

The procedure is as follows:

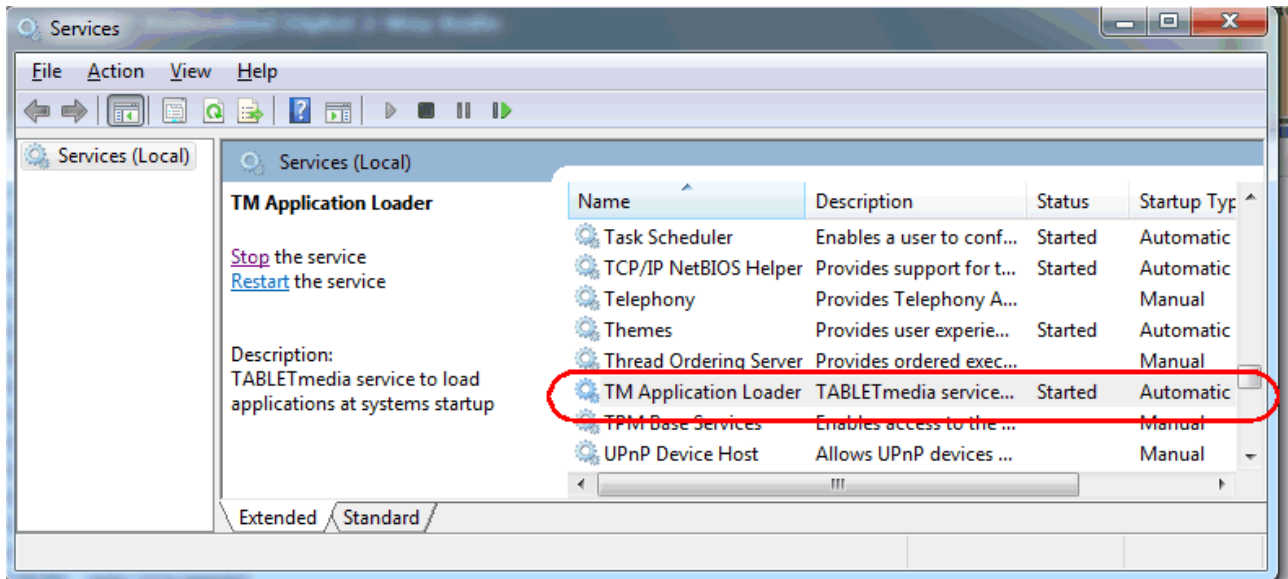
- Check the “JTS support” option in the mailbox settings
- Turn on all subscriber radios and make sure that they all register so that the database is automatically updated
- Open the complete tmARSdb.csv file with Excel or a text-editor
- Set the bJTS value of each radios according to their type
- Save the database file
- In the menu, select Settings | Load SU settings to update the application with the changes

10. MS Windows Service

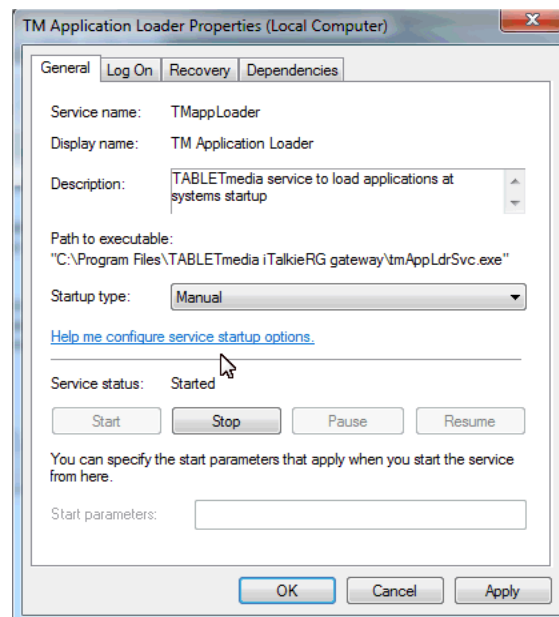
The iTalkie/RG runs as a Microsoft Windows Service. This features has been requested by IT administrators that need to have the system locked upon a restart and the gateway running in the background.

The installation program creates two icons on the MS Windows desktop to allow logged in users to start and stop the gateway.

In addition the service can be started, stopped and restarted directly on the MS Windows Services console (can be run by calling “services.msc”):



To prevent the gateway from automatically starting, go to the console, right click on the “TM Application Loader” and select Properties. On the following window select “manual” to manually start the gateway.



11. Configuration Save / Restore

While text@trbo™ does not currently provide specific support to save and restore its configuration, this can be done very easily with the following process:

- First of all install the application on the new system but DO NOT RUN IT until the changes below are made!
- Text files: copy all the .ini .csv files in the directory where text@trbo™ is installed to the new system
- MS-Windows Registry:
 - open regedit on the current installation ("Start | Run | cmd")
 - go to "HKEY_CURRENT_USER\Software\TABLETmedia\HKEY_CURRENT_USER\Software\TABLETmedia "
 - right click on "textAtTrboClass" and select "export"
 - save the file as "tt.reg"
 - copy "tt.reg" to the new system
 - right-click on "tt.reg" and select "merge" to merge the registry entries

NOTE: text@trbo™ detects if the serial number of Windows has changed.

12. Motorola MOTOTRBO Radio Programming

The following is a list of changes to be made using the Motorola MOTOTRBO CPS radio programming tool.

Page / Feature	Control Station	Subscriber Unit
General		
ID	64250	<any>
TX Preamble Duration	<same value on all radios>	
Accessories		
Cable type	Motorola	<any>
Network		
IP address	192.168.20.1 (1)	<any>
Forward to PC	checked	Un-checked
ARS radio ID	<blank>	64250
TMS radio ID	<blank>	64250
Signaling systems		
Radio Disable Decode	unchecked	<any>
Emergency Remote Monitor Decode	unchecked	<any>
Contacts		
Dispatch Call contact	<none>	<add as necessary for email >
Group Call contacts	<only the default group >	<add as necessary>
Channels		
Scan / roaming	None	None
ARS	Un-checked	Checked
Compressed UDP data header	Checked	Checked
RX List	none	<any>
TX Contact	none	<any>
Admit Criteria	Color Code Free	Color Code Free
In Call Criteria	Follow Admit Criteria	Follow Admit Criteria
Data Calls Confirmed	Checked	Checked
Enhanced Channel Access (3)	Checked	Checked

NOTES:

- 1) When using multiple control stations the 3rd octet of each one should be different, e.g 192.168.20.1, 192.168.30.1, etc. If the system is conventional the radio ID is the same for all radios. If the system is trunked and the number of subscribers that require text messaging exceeds 100 radios, they need to be partitioned between different trunked control stations, each one with a different radio ID.
- 2) The above configuration does cover radios with the Job Ticket function (e.g. SL7550)
- 3) Does not apply in talkaround (simple) and is automatically enabled in Capacity Plus trunking

13. MOTOTRBO Mobile Cable Information

13.1. Basic cable interconnect

Connecting the radio to the PC requires the standard Motorola “Mobile & Repeater Rear Programming Cable” (part # PMKN4010_) used to program the unit a special cable which can be built by the radio dealer.

14. Administrators Notes

14.1. Network / Communication Settings

Routing must be correctly configured on the PC.

- Make sure that there are no persistent routes for the radios when running text@trbo™.
- text@trbo™ does this automatically in the background: it dynamically creates a new entry in the routing table when it detects a new radio and deletes it when the radio goes offline. This entry is only temporary while text@trbo™ is running and deleted when existed.
- To verify the table entry, open a DOS (cmd.exe) window and enter “route print”. This will display the full routing table. In the following example, note the line starting with 12.0.0.0, assuming CAI Group Network of 12.

```
C:\WINDOWS\system32>route print
=====
Interface List
0x1 ..... MS TCP Loopback interface
0x3 ...00 e0 81 27 d8 b8 ..... Broadcom NetXtreme Gigabit Ethernet - Packet Sch
eduler Miniport
0x10007 ...0a 00 3e 81 f0 2a ..... MOTOTRBO Radio #8
=====
Active Routes:
Network Destination        Netmask          Gateway           Interface        Metric
    0.0.0.0                0.0.0.0         192.168.0.1       192.168.0.3        20
    0.0.0.0                0.0.0.0         192.168.10.1      192.168.10.2       50
    12.0.0.0                255.0.0.0       192.168.10.1      192.168.10.2       1
    127.0.0.0              255.0.0.0         127.0.0.1        127.0.0.1         1
    169.254.0.0            255.255.0.0       192.168.0.3       192.168.0.3        20
    192.168.0.0            255.255.255.0     192.168.0.3       192.168.0.3        20
    192.168.0.3            255.255.255.255   127.0.0.1        127.0.0.1        20
    192.168.0.255          255.255.255.255   192.168.0.3       192.168.0.3        20
    192.168.10.0           255.255.255.0     192.168.10.2      192.168.10.2       50
    192.168.10.2           255.255.255.255   127.0.0.1        127.0.0.1        50
    192.168.10.255         255.255.255.255   192.168.10.2      192.168.10.2       50
    192.168.56.0           255.255.255.0     192.168.56.1      192.168.56.1       20
    192.168.56.1           255.255.255.255   127.0.0.1        127.0.0.1        20
    192.168.56.255         255.255.255.255   192.168.56.1      192.168.56.1       20
    224.0.0.0              240.0.0.0         192.168.0.3       192.168.0.3        20
    224.0.0.0              240.0.0.0         192.168.10.2      192.168.10.2       50
    224.0.0.0              240.0.0.0         192.168.56.1      192.168.56.1       20
    255.255.255.255        255.255.255.255   192.168.0.3       192.168.0.3        1
    255.255.255.255        255.255.255.255   192.168.10.2      192.168.10.2       1
    255.255.255.255        255.255.255.255   192.168.56.1      192.168.56.1       1
Default Gateway:          192.168.0.1
=====
Persistent Routes:
None

C:\WINDOWS\system32>
```


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